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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

HU, HENRY S

ART UNIT	PAPER NUMBER
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1796

NOTIFICATION DATE	DELIVERY MODE
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10/22/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/501,844	Applicant(s) ZAGHIB ET AL.	
	Examiner HENRY S. HU	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment of July 8, 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 36-60 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 36-60 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. USPTO has received **Amendment** filed on July 8, 2008, which is in response to non-final action filed on January 8, 2008. **Claims 1-2 and 4 are amended; all non-elected Claims 6-35 are cancelled, while new Claims 36-60 are added.** To be more specific, parent Claim 1 is amended in several ways so as to overcome Examiner's claim objections (a)-(f), particularly to specify using **at least one cross-linkable four-branched polymer** and **at least one component from families (b1)-(b10)** for clarification.

The examiner thereby withdraws claim objection for Claims 1-2 and 4 in the previous Office Action filed on January 8, 2007. The examiner **accepts Applicants' six drawing sheets with Figures 1-7** (a brief description is on page 4). **Claims 1-5 and 36-60** with only **one** independent claim (**Claim 1**) are now pending. An action follows.

Response to Argument

2. Applicant's argument filed on July 8, 2008 has been fully considered but they are not persuasive. The focal arguments related to the patentability will be addressed as follows: The amendment by **rewriting parent Claim 1** in several ways so as to overcome Examiner's claim objections (a)-(f), particularly to specify using **at least one cross-linkable four-branched polymer** and **at least one component from families (b1)-(b10)** for clarification. **All three 102 rejections are thereby converted to 102/103 rejections** with somewhat modified ground of rejection after a close examination. **Final rejection is thereby applied.**

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. **Claims 1-5 and 36-60** are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Kono et al. (US 6,399,254 B1 or its equivalent EP 880,189 A2)** or under 35 U.S.C. 102(a) and/or 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Ishiko et al. (US 6,190,804 B1 or its equivalent EP 923,147 A2)** for the reasons set forth in paragraphs 5-8 of office action dated 1-8-2008 as well as the discussion below.

6. **Claims 1-4 and 36-60** are rejected under 35 U.S.C. 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Kerr et al. (US 7,101,643 B2)** for the reasons set forth in paragraphs 9-11 of office action dated 1-8-2008 as well as the discussion below.

7. **Claim 5** is rejected under 35 U.S.C. 103(a) as obvious over Kerr et al. (US 7,101,643 B2) in view of Kono et al. (US 6,399,254 B1 or its equivalent EP 880,189 A2) or Ishiko et al. (US 6,190,804 B1 or its equivalent EP 923,147 A2) for the reasons set forth in paragraphs 13-14 of office action dated 1-8-2008 as well as the discussion below.

8. **As already admitted by Applicants** on page 9 at bottom section of previous Remarks as well as current amendment, parent Claim 1 has been specifically amended (following Examiner's suggestion) to an electrolytic composition comprising **two** components including: (A) **at least one four-branched polymer** having a hybrid termination and at least one cross-linkable site and (B) **one or more compound selected from (b1)-(b10) such as PVDF, PVDF-HFP, PTFE, EDPM, polyvinyl alcohol, cellulose, ethylene oxide condensation products, PMMA, PAN, SiO₂-Al₂O₃ or nano TiO₂.**

9. The key argument is that **none of the Ishiko or Kono's electrolyte examples contains any one additive (b1-b10) of amended Claim 1.** As pointed out on page 8 of Remarks along with Ishiko's working examples 1-13, **tetrafunctional polymer is indeed in the electrolyte composition; PVDF is "only" used in the electrode "coating" composition, while there is no tetrafunctional polymer in said electrode.** Attention is directed to the fact that **electrolyte is located between both electrodes including cathode and anode.** In most of the cases, electrolyte is actually closed contacted each other as known in the art. Whether PVDF (which is on the surface of electrode) is inside the electrolyte composition or PVDF is contacted on the surface of the electrolyte may be not critical. Additionally, parent Claim 1 does not specify the efficiency of polymer electrolyte.

10. The other key argument is that **Kerr's electrolyte examples do NOT contain any one additive (b1-b10) of amended Claim 1.** See page 9 at the top section of Remarks. In addition to using four-branched polymer having a hybrid termination and at least one cross-linkable site, **Kerr only adds a polymer additive such as a polymer derived from poly(oxyethylene) (PEO) for dilution purpose** (see column 1, line 31-32). Attention is directed to the fact that **such a PEO type polymer may be functionally similar to and/or equivalent to the claimed polymer additives** including PVDF, PVDF-HFP, PTFE, EDPM, polyvinyl alcohol, cellulose, **ethylene oxide condensation products**, PMMA, PAN. For instance, Kerr's polymer additive derivatives made from poly(oxyethylene) (PEO) may be similar to or the same as the claimed **ethylene oxide condensation products**. Additionally, parent Claim 1 does not specify the efficiency of polymer electrolyte.

11. Based on above rationales, **the same or similar function as polymer electrolyte may be still achieved by each of Kono, Ishiko and Kerr.** In light of the fact that the prior art and the present invention recite substantially identical composition on using a mixture of one four-branched cross-linkable polymer and one polymer additive as well as such a composition is applied for the same polymer electrolyte purpose, a reasonable basis exists to believe that the composition of the invention inherently possess the same or at least similar polymer electrolyte property and/or function.

12. Newly added dependent **Claims 36-60** are all related to the claimed two components as discussed in above-mentioned **paragraph # 8**. They are thereby rejected with the same rationale for the rejection of parent Claim 1.

13. In summary, **all three 102 rejections are thereby converted to 102/103 rejections** with somewhat modified ground of rejection after a close examination. **Final rejection is thereby applied.**

Conclusion

14. Applicant's amendment **necessitated the new ground(s) of rejection presented in this Office action**. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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15. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Dr. Henry S. Hu whose telephone number is (571) 272-1103**. The examiner can be reached on Monday through Friday from 9:00 AM –5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Vasu Jagannathan, can be reached on (571) 272-1119. The **fax** number for the organization where this application or proceeding is assigned is **(571) 273-8300** for all regular communications. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Peter D. Mulcahy/
Primary Examiner, Art Unit 1796

/Henry S. Hu/
Examiner, Art Unit 1796

October 13, 2008